

lichtbeelden, w.o. photo's van een aantal door spreker waargenomen drielingen.

Ten slotte wijst spreker op de onderzoekingen, verricht in bastardeeringsgebieden, zooals te Rehoboth en op de Hawaï-eilanden en merkt op, dat wij in Zuid-Limburg ook in een menggebied wonen, waar het Noorsche en het Alpine-ras elkaar ontmoeten. Hij hoopt, det het onze Vereeniging, zij het niet in dezelfde mate als de „naturforschende Verein" te Brünn, gegeven moge zijn, mede te werken aan den uitbouw der erfelijkheidsleer, in

het bijzonder door waarnemingen omtrent raskruising bij den mensch en dat onze maandelijksche vergaderingen daarvan den weerklink zullen geven.

Nadat enkele aanwezigen eenige opmerkingen hadden gemaakt en de spr. eenige vragen had beantwoord, dankt de Voorzitter den spreker hartelijk voor zijn lezing en de vele moeite, zich hier voor getroost.

ON A SMALL COLLECTION OF ORTHOPTERA FROM THE CHUNGKING DISTRICT, S. E. CHINA.

by

C. WILLEMSE.

Through the kindness of Mr. Walter Horn, I had the opportunity to study a small collection of Orthoptera from S. E. China. Where the Orthoptera fauna from China is badly known, great areas being unexplored on their orthopterous fauna, each contribution should be welcomed as an addition to the knowledge of these insects. The collection was brought together by Mr. Friedrich Sz' Tschwan, in the years 1929—31.

Fam. ACRIDIDAE.
Subfam. ACRIDINAE.

Acrida turrita Lin.
Chungking, Bébé, 5 ♂♂, 4 ♀♀.

Phlaeoba sinensis Bol.
Chungking, Bébé, 1 ♀.

Aiolopus chinensis Karny.
Chungking, Bébé, 2 ♀♀.

Subfam. OEDIPODINAE.

Locusta migratoria ph. migratoria Lin.
Chungking, Bébé, 3 ♀♀.

Trilophidia annulata Thunb.
Chungking, Bébé, 7 ♂♂, 2 ♀♀.

Oedaleus infernalis Sauss.
Chungking, Bébé, 40 ♂♂, 27 ♀♀.

Gastrimargus marmoratus Thunb. var. *transversus* Thunb.
Chungking, Bébé, 15 ♂♂, 32 ♀♀.

Gastrimargus marmoratus Thunb. var. *grandis* Sauss.
Chungking, Bébé, 1 ♂, 1 ♀.

Gastrimargus africanus Saussure
subsp. *chinensis* nov. subsp.

This subspecies differs from the subsp. *orientalis* Sjöstedt, the only known subspecies occurring in Asia, in the following features.

Elytra relatively short, extending a little beyond the apex of hind femora. Apex broadly rounded.

Elytra brown, with the anal area green or brown; basal half with only a narrow transverse hyaline band, mostly only indicated by a few spots or even absent, the second transverse hyaline band more distinct but much narrower than in *orientalis*.

Wings with the base yellowish-green. Hind femora without distinct dark transverse band. Fig. 1.



Fig. 1. *Gastrimargus africanus* Sauss subsp. *chinensis* nov. subsp. Type ♀.

	♂	♀
Length of body	19.5-22 mm	28-38 mm
" " pronotum	5.5-6 "	7-9 "
" " elytra	19-22 "	28-29 "
" " hind femora	13-15 "	17-22 "

Locality: China, Dsachi Bezirk, Tatsienlu, 31 ♂♂, 55 ♀♀. VIII-IX, 1930 (types, Mus. Deutsch. Entom. Inst. Berlin).

Subfam. PYRGOMORPHINAE.

Atractomorpha sp.

Chungking, Bébé, 1 ♂, 4 ♀♀.

Subfam. CATANTOPINAE.

Oxya intricata Stål.

Chungking, Bébé, 15 ♀♀.

Oxya chinensis Thunb.

Chungking, Bébé, 3 ♀♀.

Hieroglyphus annulicornis Shir.

Chungking, Bébé, 11 ♂♂, 15 ♀♀.

Ceracris nigricornis-nigricornis Walk.

Chungking, Bébé, 2 ♀♀.

Spathosternum sinense Uvar.

Chungking, Bébé, 2 ♀♀.

Traulia ornata-ornata Shir.

Chungking, Bébé, 1 ♀.

Traulia ornata-tonkinensis Bol.

Chungking, Bébé, 1 ♂, 1 ♀.

Conophymacris nov. gen.

Body stout, size medium, rugosely punctate.

Antennae filiform, joints relatively thick, somewhat flattened, apical joint pointed or rounded, not dilated; reaching the hind margin of pronotum or a little longer (♂).

Head short, face slightly reclinate, frontal ridge raised, gradually lowered towards clypeus, somewhat impressed with raised lateral carinae, near the clypeus indistinct, lateral carinae parallel.

Fastigium of vertex sloping towards the frontal ridge, feebly impressed, lateral keels very obtuse, indistinct, apex widely rounded. Temporal foveolae absent or indistinct. Fastigium separated from the vertex by a transverse impression. Occiput convex.

Eyes prominent side ways, short-oval, very broadly separated on the vertex.

Lateral facial carinae distinct, only slightly divergent, nearly straight.

Pronotum rather thick, rugulose, median keel thick but low, only interrupted by the third sulcus, lateral keels thick, very distinct, divergent towards the posterior margin; anterior margin straight; posterior margin slightly rounded; first transverse sulcus only on the disc, second and third sulcus both on the disc and on the lobes, third sulcus

interrupting the median keel, prozona much longer than the metazona; lateral lobes more or less polished in prozona, except the margins which are rugulose, distinctly longer than high, lower margin slightly ascendant from the middle towards the anterior margin, anterior and posterior angle rounded; lower margin nearly straight.

Elytra lateral, reaching a little beyond the hind margin of the second abdominal tergite, broad, with the apex broadly rounded. Wings rudimentary.

Prosternum with a short conical tubercle, apex obtuse.

Mesosternal lobes and their interspace transverse in male and female, inner margin of mesosternal lobes divergent posteriorly. Metasternal lobes separated, especially in the female. Abdomen carinated from above.

All femora thickened. Hind femora short thick, keels smooth, kneelobes rounded, without teeth.

Hind tibiae rounded, nearly straight, with 10 inner and 11 outer spines, with distinct outer apical spine, inner spurs longer than the outer ones. Hind tarsi short, not reaching the middle of hind tibia, second joint very short, first and third joint of about equal length.

♂. Supra-analplate broad, with a median sulcus at the base, hind margin broadly rounded, with an obtuse median apical tooth or prolongation, lateral margins slightly curled up.

Cerci longer than supra-analplate, flattened, strongly curved inward, narrowed apically, the top somewhat dilated and truncated.

Subgenital-plate short, only slightly curved upwards, apex obtusely pointed.

♀. Supra-analplate obtusely triangular, longer than its basal width, with a shallow median, basal impression.

Valves of ovipositor moderately long, the upper valves with the margins crenulate, apex curved up and pointed, lower valves slightly dentate basally.

Subgenitalplate about as long as broad, posterior margin triangularly produced in the middle, on each side with a deep rounded incision.

Genotype: *Conophymacris chinensis* nov. spec.

The genus *Conophymacris* nov. gen., resembles in habitus the central-asiatic alpine genera *Conophyma* Zubow., *Hypernephia* Uv., *Pamiracris* Ramme and the Indian *Paraconophyma* Uv., Besides from the geographical distribution, these genera are differing in the following way.

From *Pamiracris* and *Conophyma* in the presence of rudimentary elytra, from *Hypernephia* in the presence of an outer apical spine of hind tibiae and from *Paraconophyma* in the presence of well developed, strong lateral keels of pronotum that in *Paraconophyma* are only feebly indicated to the middle or as a row of impressed points, whereas in *Paraconophyma* the posterior margin of pronotum is excised and in *Conophymacris* it is distinctly rounded.

From *Podisma* Latr. it is differing in the presence of a distinct outer apical spine of hind tibiae, that in *Podisma* is practically absent.

Conophymacris chinensis nov. spec.

General coloration olivaceous green or brown. Antennae yellowish or reddish brown. Head brown or dark olivaceous green, cheeks often more yellowish green or brown. Pronotum brown or dark olivaceous green, the lobes more yellowish green or brown.

Elytra dark blackish-brown, anal area reddish-brown or yellowish-brown. Abdomen dark olivaceous-green or brown. Anterior and median legs greenish or greenish-brown or brown. Sides of meso- and metathorax yellowish-brown or brown.

Hind femora brown or dark olivaceous green, area externo-media sometimes blackish-brown, with an irregular yellowish stripe along the lower outer carina, lower area olivaceous green, inner area dark olivaceous green or blackish-brown.

Knee somewhat reddish-brown.

Hind tibiae red, spines with black tips.

Hind tarsi red or reddish-brown. Fig. 2.

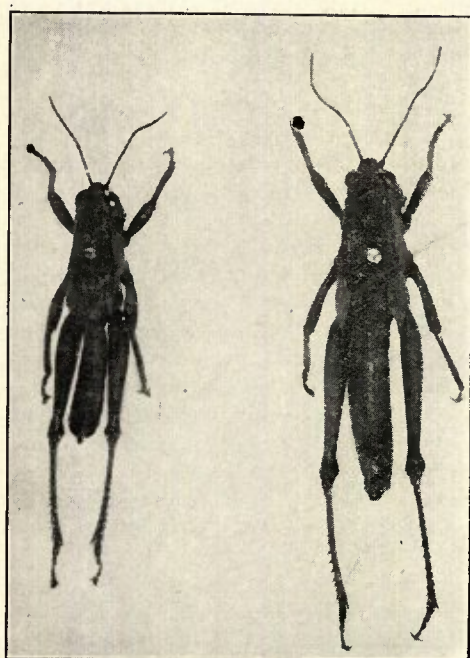


Fig. 2. *Conophymacris chinensis*. nov. gen. e spec. Type ♂, ♀.

	♂	♀
Length of body	20—24 mm	39 mm
" " pronotum	5.5—6 "	8 "
" " elytra	4—5 "	6 "
" " hind femora	11—12 "	15 "

Locality: China, Dsaschi Bezirk, Patsienlu, 7 VIII 22 ♂♂, 36 ♀♀ (Type Mus. Deuts. Entom. Institut. Berlin).

Chondacris rosea-rosea de Geer.
Chungking, Bebé, 8 ♂♂, 5 ♀♀.

Calliptamus abbreviatus Ikon.
Chungking, Bebé, 1 ♂, 1 ♀.

Catantops brachycerus Will.
Chungking, Bebé, Tatsienlu, 2 ♂♂, 1 ♀.

Euprepocnemis Shirakii Bol.
Chungking, Bebé, 7 ♂♂, 4 ♀♀.

Fam. TETTIGONIIDAE.
Subfam. MECOPODINAE.

Mecopoda elongata L. *niponensis* de Haan.
Chungking, Bebé, 1 ♂ (var. *Servillei* Karny)
1 ♀ (var. *ferruginae* Stoll.).

Subfam. HEXACENTRINAE.

Hexacentrus unicolor Serville.
Chungking, Bebé, 2 ♂♂.

Subfam. CONOCEPHALINAE.

Homorocoryphus lineosus Walk.
Chungking, Bebé, 4 ♂♂, 3 ♀♀.

Subfam. TETTIGONIINAE.

Tettigonia chinensis nov. spec.

Closely related to *T. viridissima* Lin. General colour green or brownish green. Head and pronotum greenish-brown.

Elytra long, reaching far behind the apex of hind femora, area mediastina less reticulated than in *viridissima*.

Spines of hind femora black, without black ring about their insertion.

♂. Last tergite dissected into two, more or less sharply pointed, triangular lobes. Cerci conical, slightly incurved, broad at the base, with a sharp teeth on the inner side, in the middle, apex obtusely rounded. Subgenital plate longer than broad, posterior margin slightly concave; styli straight, fairly long, shorter than the cerci.

♀. Last tergite with the posterior margin deeply excised and dissected into two, triangular lobes.

Ovipositor short, not reaching the apex of elytra, nearly straight.

Cerci straight, conical, apex more or less pointed. Subgenital plate longer than broad, posterior margin with a deep slitlike incision. Fig. 3.

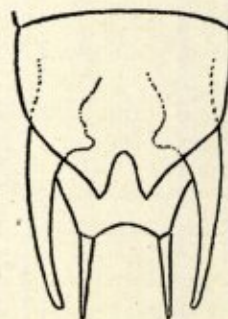


Fig. 3. *Tettigonia chinensis* nov. sp. ♂. Top of abdomen.

	♂	♀
Length of body	33 mm	32 mm
" " pronotum	8 "	7.5 "
" " elytra	49 "	53 "
" " hind femur	27 "	29 "
" " ovipositor		22 "

This species differs from *T. viridissima* L. in the less dense reticulation of the mediastinal area, in the relatively longer elytra and shorter ovipositor and in the shorter cerci and styli of the male.

Locality: Chungking, Bèbé, 1 ♂, 1 ♀ (type Mus. Deuts. Entom. Inst.).

Subfam. PTEROPHYLLINAE.

Tarpe Karnya nov. sp.

♀ General coloration greyish-brown or brown, marbled with blackish.

Antennae blackish brown, alternatively variegated with joints of greyish-brown colour.

Lower margin of antennal scrobae and forehead shining black.

Clypeus and mouthparts yellow, with black borders.

Head yellowish brown with small round spots and stripes in brown coloration.

Anterior margin of pronotum with two tubercles, posterior margin rounded, metazona without distinct longitudinal row of tubercles; lateral lobes higher than long; brown or brownish-black, marbled with round spots or stripes, disc of pronotum and posterior margin darker coloured.

Tegmina reaching far behind the tip of ovipositor, with some irregular, black and elevated nodes, anterior- and posterior margin nearly straight, narrower apically, with the tip rounded, coloration brown.

Wings as long as elytra, infumated.

Anterior- and median legs brown, marbled with black.

Hind femora with the inner area and the upper part of outer area black, lower part of outer area brown.

Posterior tibiae blackish-brown. Body from beneath blackish brown. Ovipositor reddish-brown, lower valvae black at the base; as long as the hind femora.

	♀
Length of body	29 mm.
" " pronotum	7 mm.
" " elytra	51 mm.
" " hind femora	18 mm.
" " ovipositor	19 mm.

Locality: China: Kreis Nanchuan, Cinfu-Shan. 1 ♀ (type Mus. Deutsch. Entom. Inst. Berlin).

This species resembles very much *T. novae-Hollandiae* de Haan, but may be distinguished at once by the black forehead, that in *novae-Hollandiae* is yellowish-brown ¹⁾.

Subfam. SCAPHURINAE.

Elimaea insignis Walk.
Chungking, Bèbé 1 ♂; Cinfu-Shan (Bez. Nandjuan) 1 ♂ (det. H. Karny).

Ducetia thymifolia Fabr.
Chungking, Bèbé 1 ♂ (det. H. Karny).

Phaneroptera gracilis Burm.
Tjiji, 18 IX 1930, 1 ♀ (det. H. Karny).

Subfam. DECTICINAE.

Atlanticus sinensis Uvar.
Chungking, Bèbé, 1 ♀, (det. H. Karny).

¹⁾ Mr. H. Blöte from the Rijks-Museum van Natuurlijke Historie at Leiden, had the great kindness to study the types of de Haan, giving me the above named information.

PTERIDIUM AQUILINUM KUHN.

door A. de Wever.

(Slot).

In loofbosschen is soms de schade ook niet gering, en is zij al even moeilijk voor goed kwijt te raken.

In veewiden met of zonder ooftboomen komt ze niet veel voor, maar b.v. te Hulsberg bij Heihof beslaat ze bijna twee hectaren. Elkaar opvolgende pachters der hoeve hebben tevergeefs alle mogelijke bestrijdingsmiddelen aangewend. Omploegen, herhaald uittrekken, uitbranden, sterke kunstmeststoffen, ook kalk, gier bij zeer droog en heet weer, dit alles vermag blijkbaar de diepste wortelstokken niet te treffen.

Te Schinveld zag ik haar, jaarlijks in den zomer, driemaal afgemaaid, na 5 jaar geheel wegblijven. Na zooveel jaar zullen ook wel andere middelen afdoende zijn, tenzij deze te veel vergift in den bodem zouden achterlaten.

In bouwland ziet men haar o.a. op 't plateau van Berg en Terblijt van uit de heuveltoppen op veel plaatsen indringen. Ook in één akker te Kerkrade op den Kaféberg, hier zelfs minstens 40 jaren van 't bosch afgesloten. Door 't bewerken van 't bouwland wordt de varen vaker gestoord, en is de uitbreiding niet noemenswaard, maar men krijgt ze tot nu toe hier toch ook niet weg.

Tegenover al deze schade staat toch ook eenig nut. De heele plant wordt in sommige plaatsen (Nyswyler, Vijlen, Eperheide e.a.) voor strooisel in veestallen en voor 't afdekken van stalzolders en graanmijten gebruikt.

't Afgestroopte droog loof, dat evenwel niet broos is, gebruikt men wel voor 't vullen van matrassen; omdat deze varen zoo weinig door insecten wordt aangetast, meent men dat zij tevens een middel is tegen „ongecijfer”. 't Afstroopen is wel 'n lastig werk door de scherpe houtige schilfers van den stengel.

Dr. Mac Gillavry vond de membracide *C. en-*